

400 632 5830



robosense

## What you should know about RoboSense

RoboSense is the world leading LiDAR environment perception solution provider who specifically focuses on autonomous driving industry. Through consistent technological innovation, the company creatively combines LiDAR hardware, 3D data processing algorithms and deep learning technology to bring the world with top-notch robot perception solutions which enable robots to see the world with better than human eyes environment perception capability.

RoboSense was founded by a team of PhDs from Harbin Institute of Technology in 2014. Over 7-year R&D and 3-year commercialization, RoboSense has successfully set up a research-production-marketing operation model for LiDAR Environment Perception Products.

Currently, the company has nearly 200 talents(factory workers not included) with 60% are post-graduate level R&D engineers. RoboSense has established long-term partnership with a few top engineering colleges including MIT, Tsinghua, and HIT, etc.

60%

### R&D Team

The R&D team is composed of more than 100 professionals, among which more than 60% are PhDs and Postgraduates.

10+

### R&D Experience

More than 10 years of technological accumulation on robotics R&D. Commercialization of R&D achievements started from 2014.

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### Technical Strength

World leading technology power with many years of technological accumulation.

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More than what you see

深圳市速腾聚创科技有限公司  
Suteng Innovation Technology Co., Ltd.

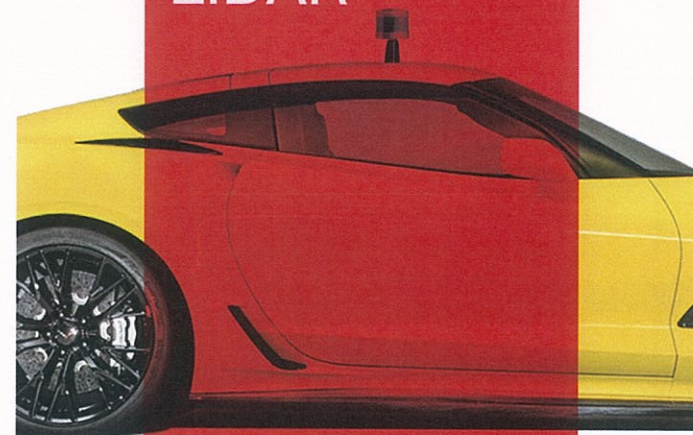
Address: Robosense Building, Block 1, South of Zhongguan  
Honghualing Industrial District, No. 1213 Liuxian Avenue,  
Taoyuan Street, Nanshan District, Shenzhen, China.

Web: [www.robosense.ai](http://www.robosense.ai)

Tel: 0755-8632-5830

Email: [service@sz-sti.com](mailto:service@sz-sti.com)

RS-LiDAR-16  
Multi-Beam  
Real Time  
LiDAR



[www.robosense.ai](http://www.robosense.ai)



# RS-LiDAR-16

## Multi-Beam Real Time LiDAR

RS-LiDAR-16, the newest addition to RoboSense's LiDAR family, is the first 16-channel LiDAR product in China with world's most cutting-edge technology.

This new solid-state hybrid LiDAR features 16 laser channels, 150-meter measurement range, 2-centimeter accuracy with 320,000 points per second data rate, 360° horizontal field of view and 30° (±15°) vertical field of view. This amazing LiDAR is most suitable for the environment perception needs of autonomous cars, robots and UAV.

## Applications

### 1. Autonomous Car Environment Perception

Autonomous driving is dependent on the development of a host of advanced technologies like high definition maps, traffic signs recognition, real time localization, and obstacles detection, which RS-LiDAR-16 can make all of them far more realizable and bring autonomous driving one step closer to reality.



#### High Definition Maps

High definition map is a key step in realizing autonomous driving.



#### Traffic Sign Recognition

Through continuous driving environment scanning, RS-LiDAR-16 swiftly detects traffic signs on the road.



### Real Time Localization

RS-LiDAR-16 continuously scans the driving environment and collects real time road data to complete existing high definition maps, by which to achieve more precise vehicle localization.



### Obstacle Detection

As the "Eye of Driverless Cars", RS-LiDAR-16 helps cars to "feel" the surrounding environment and precisely detects obstacles for their distance, shape and size, etc. which greatly improves the accuracy of obstacle avoidance and guarantees safe driving.

## 2. Robot Environment Perception

Rigorous product tests prove RS-LiDAR-16 a smart perception choice for robots to perceive the surroundings because of its high accuracy and direct data capturing. No matter indoor or outdoor, robots can rely on RS-LiDAR for real time localization and navigation.



### Environment Mapping

Through RS-LiDAR-16 and RoboSense's pat-ented signal processing technology, robots can "recognize" its location and surroundings.



### Real Time Localization

By integrating environment information from RS-LiDAR-16 with existing HD maps, robots can precisely locate itself and make better motion decisions.

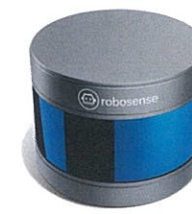
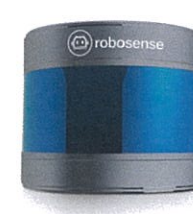


### Obstacle Detection

RS-LiDAR-16 with 16 laser beams and real-time detection can ensure rich and accurate data for robots to clearly "see the world" and avert "miss detect" or "false report" of obstacles.

## 3. UAV Mapping

RS-LiDAR, when perfectly partners with UAV, can carry out excellent aerial mapping missions. RS-LiDAR-16 mounted on UAV rapidly produce DEM and DOM of land surfaces for a wide range of applications, including land development, engineering planning, urban planning, disaster investigation, GIS, civil management, mining, architecture, forestry, and a whole lot more.



## Product Parameters

Sensor	Laser	16 channels
	Wavelength	905nm
	Laser class	class 1
	Accuracy	±2cm (typical)
	Range	20cm~150m (20% object reflectivity)
	Data rate	320,000pts/s
	FOV(vertical )	30°
	Angular resolution (vertical)	2.0°
	FOV (horizontal)	360°
Mechanical	Angular resolution (horizontal)	0.09°~0.36° (5~20Hz)
	RPM	300~1200rpm (5~20Hz)
	Input voltage	9~32 VDC
	Power	9W (typical)
	Sensor protection	IP67
Data	Operation temperature	-10°C~60°C
	Dimension	H:82.7mm*φ:109mm
	Weight	0.84kg (without cabling)
Data	Data collection	3D space coordinates/reflectivity